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ABSTRACT

The purpose of this study is to determine the effects of an academic support program on students who had been terminated from Eastern Kentucky University because of academic failure. Specifically it: (1) investigates the effect of improvement in reading comprehension, vocabulary and rate on grade point achievement after students participated in a college learning laboratory program; and (2) examines background and personality factors of students in an effort to discover whether there were traits common to "successful" student members of the rehabilitated group. Subjects were 37 students who were in the program from September, 1969, to Spring, 1970. Following intake interviews and testing, students were scheduled into a seven-week reading and study skills course. Newly acquired skills were reinforced in small, group study sessions which were also used to improve self-perception through interaction and self-evaluation. Results suggest that: (1) one-fourth of the college students whose college careers have been ended because of academic failures can be rehabilitated; (2) reading and study skill courses have value; (3) small group counseling combined with practical application of study skills can result in academic achievement. (Author/HMV)

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# A LONGITUDINAL STUDY OF THE EFFECT OF AN ACADEMIC SUPPORT PROGRAM ON FORMER COLLEGE FAILURES

by Ann S. Algier

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# A LONGITUDINAL STUDY OF THE EFFECT OF AN ACADEMIC SUPPORT PROGRAM ON FORMER COLLEGE FAILURES

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ABSTRACT

A LONGITUDINAL STUDY OF THE EFFECT OF AN ACADEMIC SUPPORT PROGRAM ON FORMER COLLEGE FAILURES

The purpose of this study was to determine the effects of an academic support program on students who had been terminated from Eastern Kentucky University because of academic failure. The central question posed by the longitudinal study asked whether a significant percentage of academic failures would be rehabilitated and enabled to earn four-year degrees as a result of the Central University College Learning Laboratory program. The Learning Laboratory program was designed to include a reading-study skills course, small group sections for tutoring and counseling, and emphasis on achievement motivation. Therefore, the second question investigated by the study concerned the effect of improvement in reading comprehension, vocabulary and rate on grade point achievement. The third concern of the study was to examine background and personality factors of students within the Learning Laboratory experiment in an effort to discover whether there were traits common to "successful" student members of the rehabilitated group.

During the summer of 1969, fifty seven students who

had failed to meet academic standards required at Eastern Kentucky University were invited to participate in an experimental program designed to assist students in academic difficulty. Their names were selected from the university probation list, and their transcripts, ACT scores, and high school grade point averages were considered. Intelligence tests were not administered to the group as a whole because the program presupposed that certain nonintellectual factors such as self concept, family and peer pressures, personality and background factors, and simple inertia were inseparable from intellectual aspects involved in academic achievement. Of the 57 subjects from the Fall Semester sample, 37 survived to enroll for Spring Semester, 1970. This study deals with the 37 students who were followed through from September, 1969.

Following intake interviews and testing, students were scheduled into a seven-week reading and study skills course which included comprehension and rate drills, vocabulary development, note-taking techniques, listening skills, spelling principles, and information on learning how to learn for examinations. Reinforcement of newly acquired skills was provided in small group study sessions where vocabulary concepts and essay test writing were emphasized throughout the semester. Supplementary

materials which correlated with course content were made available for group and individual use. These small study groups were also used to improve self-perception through group interaction and self-evaluation which forced students to recognize and develop their strengths rather than to worry about weaknesses.

The specific hypotheses tested in the study concerned reading improvement, background factors which were assumed to influence academic and personality traits. Successful students in the study showed a significant improvement in vocabulary and comprehension, pre and post Nelson-Denny test scores. The t-Test was significant at the .05 level of confidence. There was no significant difference between successful and failing students in the sample when reading rate gains were compared. The data seem to suggest that reading improvement courses do influence grade point achievement.

Other factors sampled, such as ACT Scores and Orientation Grades showed no significant difference between the successful and failing students in the sample. Background factors including sex, family income, race, and urban/rural hometown were correlated with success and failure of students, and after analyzing the data by using Chi-Square, the variables were judged "not significant" at the .05 level.

Of the 16 personality factors sampled, only one, Factor "M" (careful as opposed to careless) was significant at the .05 level. An interpretation of this factor indicates that the students who succeeded in the Learning Laboratory program were more careful in practical matters, anxious to do the right things, and apparently more receptive to suggestions than were the students who failed. Data concerning pre and post grade point averages for the first two semesters were compared and the results were significant beyond the .05 level of confidence.

1. The data suggest that one-fourth of the students whose college careers have been ended because of academic failure can be rehabilitated through academic support programs and enabled to earn degrees.

2. The data revealed that reading and study skills courses have value and contribute to academic achievement. Gains in vocabulary and reading comprehension had a significant effect on grade point achievement.

3. Small group counseling combined with practical application of study skills learned in the reading-study skills course appears to bring change in a positive direction and results in academic achievement. Group interaction within this particular tutorial design appears to be a valid motivational technique.

4. The subjects of the study were representative of the university population in terms of sex, race, family income, and rural/urban hometowns. Male and female students who can benefit from academic support programs appear to come from all socioeconomic and racial groups and represent both rural and urban communities.

5. Data derived from questionnaires and personal interviews indicated that overindulgent parents, parental indifference, and economic deprivation all have a negative effect on academic achievement of students.

6. ACT Scores of the successful students in the experiment were not significantly better than scores of the students who failed.

7. Because of the small size of the sample reported in this study, the findings may not be applicable to total populations, and the study should be replicated, using a larger sample.

# CHAPTER I

## INTRODUCTION

### Background and Need for the Study

Admissions committees at institutions of higher learning have traditionally been reluctant to readmit individuals who have failed to meet required grade-point averages. Labeled "high risk" students, they are normally written off as being intellectually inferior and consequently relegated to the academic trash heap with only superficial investigation as to causes of failure. The most common assumptions made are that the student did not belong in college in the first place, the implication being that he "played" too much. In many cases the latter does contribute to failure, but the fact is that students who graduate from high school with a "C" average can succeed in state universities and colleges. However, many university students, urban and rural, black and white, arrive on campus with grave deficiencies in communication skills. As a result they experience frustration in the classroom, fail to meet grade-point requirements, and are forced to leave school without realizing their respective poten-

tials. Some come from a school background or culture which discouraged oral participation; many are simply victims of inadequate elementary and secondary preparation. Others lack goal orientation and knowledge of career possibilities, and others have simply pursued inappropriate college majors. A factor which may be unique for Appalachian students is their reluctance to enter into class discussions when the opportunity is presented. Many have come from relatively non-verbal cultures, and their shyness is often misinterpreted when grades are based in part on class participation. The point is that it is not possible to isolate any one single cause for academic failure.

Educational leaders have for years been calling attention to the need for the nation to discover means which will permit more students to successfully complete their higher education. If democracy is to survive in the age of "future shock," as many students as possible must be helped to realize their full potential. As early as 1947, the President's Advisory Commission on Higher Education urged that a national policy be adopted that would bring all boys and girls of average intelligence or higher into college for two years and keep as

many as possible in college throughout a four-year course.[1] In any case, an attempt must be made to salvage the talent wasted through what we now refer to as academic failures.

## STATEMENT OF THE PROBLEM

This study was concerned with the admission of a group of students who had been dismissed from an accredited university because of academic failure and their subsequent rehabilitation into patterns of successful performance through a counseling and skill development program.

This longitudinal study attempts to answer the following questions:

1. Of the academic failures included in the initial experiment, what percentage will graduate from college. Since between 23% and 25% of the entering freshmen graduate, will the percentage from the experimental group be equal to, more than, or less than that figure?[2]

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[1]Robert J. Havinghurst and Bernice L. Neugarten. Society and Education, Third Edition, Boston: Allyn and Bacon, Inc., 1967, p. 108.

[2]Office of Research, Eastern Kentucky University, November, 1971.

2. Does a reading and study-skills program help students raise grade point averages?

3. Are there background and personality factors common to "successful" student members of a rehabilitated group?

There are relatively few studies reported in the literature which deal with academic support programs. Most similar programs are reported as compensatory in nature and are designed for students from minority or disadvantaged backgrounds. Few of these report results in terms of grade point achievement, and longitudinal data were unavailable. Chapter II will cite recent studies on this point. However, there are numerous studies available in educational and psychological journals which describe attempts to determine the effects of reading and study courses on grade-point averages of college students. Approximately half of the studies support the assumption that improved reading (speed, rate, comprehension) results in a significant improvement of grades while the other half reject this assumption.

Studies concerning group counseling directed toward improving academic achievement of college students are reviewed in Chapter II. However, very few studies combine both areas, taking into account non-intellectual and intellectual factors of students who have been

dismissed for academic failure. This paper describes an attempt to combine reading, study skills, group interaction and achievement motivation designed to promote academic success. During the combined academic support effort held within the confines of the Central University College Academic Counseling and Learning Laboratory, an investigation of personality traits was conducted. Cattell and Eber's 16 Personality Factor Scale was administered to determine whether certain personality traits would be common to successful students within the high risk group. This information would be utilized 1) in screening of subsequent high risk groups and 2) in assisting students in behavior modification.

After two to four semesters within the Academic Counseling and Learning Laboratory, students were released to upper-division advisors and were contacted by mail several times in order to demonstrate continuing interest by the Learning Laboratory staff. A number of students from the original experimental group are being followed through to graduation.

## DEFINITION OF TERMS

The following terms, used throughout this study, have specific definitions.

Academic Support: Two categories of supportive services available to students, both designed to assist students in succeeding in college. One provides background and skill development for academic subjects. The other involves academic counseling.

Success: Progress toward graduation in terms of improved grade-point achievement.

Central University College: The college of the university which is responsible for students during their first two years.

Strength Bombardment: A positive approach used in groups to encourage a person to analyze his strong points. The method fosters positive feelings in participants.

Rapid Reading: A technique taught to students which results in the doubling of reading rate with improvement in comprehension.

Forced Writing: A five to fifteen minute exercise which is designed to increase the flow of language.

Academic Failure: A term applied when cumulative grade point averages fall below the following: 24-35 hours attempted - 1.4 G.P.A.; 36-63 hours attempted - 1.6 G.P.A.

High Risk Students: Those students who have been dismissed from college because of academic failure.

## PURPOSE

The purpose of this study was three-fold:

1. To enable students who had been dismissed from college for academic failure to attain college degrees.
2. To determine the degree of correlation between background information (sex, urban-rural origin, family income, orientation grades, race, and ACT scores) and successful academic performance.
3. To identify personality traits which correlate with successful academic achievement for utilization in screening future groups of failing students.

## LIMITATIONS

The sample cited in this study was small and lacks balance which could have been provided by a control group. In 1969, it would have been difficult, if not impossible, to convince an admissions committee to readmit a group of college failures in order to provide a control group. However, because of the partial results from the study, admission of a control group of academic failures may be an acceptable idea.

Because of the size of the sample, generalizations

may not apply to populations beyond this study. However, directions for further research are indicated, and the study should be replicated.

Consideration of high school grade point averages was an important consideration of this study. Unfortunately, these data were unavailable for over one-third of the sample.

## PROCEDURE

A unique multi-faceted program for salvaging academic failures based on the premise that certain non-intellectual factors--namely self-concept, failure syndrome, peer pressures, and simple inertia--are inseparable from the intellectual aspects involved in academic achievement, was inaugurated at Eastern Kentucky University, at the beginning of the 1969-70 school year.[3] Fifty seven students who had completed

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[3]Ann S. Algier, "A New Approach to Academic Rehabilitation," Educational Record (Winter, 1972), 53, p. 80.

their freshman year with grade-point averages of 1.5 (four point scale) or less and who therefore had been denied re-admittance, were informed that they would be allowed to return to school provided they agreed to participate in an experimental program designed to assist students in academic difficulties. Re-admittance was conditional upon an agreement to accept a 12-hour maximum class load and to devote at least nine hours per week to the program prescribed by the Central University Academic Counseling and Learning Laboratory.

Following an intake interview during which ACT scores and college transcripts were considered, the 37 participants provided a writing sample and were given reading comprehension, rate, and vocabulary tests. They were then asked to complete questionnaires concerning physical condition, family background, and general career expectations. If goal orientation seemed nebulous or vague, interest inventories and aptitude tests were administered at a later date and the results interpreted to the student. Other tests such as the Brown-Holtzman Study Habits Inventory were given as needed.

The second phase of the program involved an intensive attack on academic skill deficiencies as revealed by diagnostic tests. Individualized programs were

tailored to fit specific needs, but because the tests revealed that none of the participants was adequate in communications skills all were exposed to a reading course designed to increase reading speed and upgrade comprehension. Seven weeks (about 20 exposure hours) was found to be sufficient to at least double speed and significantly increase comprehension. Because a weak vocabulary inhibits reading, an important part of the course was vocabulary enrichment. This aspect was made doubly effective in terms of the overall purpose of the program by keying it into required freshman and sophomore courses in that materials used for word building were drawn from pertinent disciplines such as world history, world literature, and the basic sciences. Concurrently, in an attempt to re-enforce newly acquired reading and vocabulary skills, the students were required to attend short forced writing sessions. Periodically they were divided into small groups of five or six and instructed to select one of the forced writing samples for revision into a formal essay employing traditional composition formula structure.

After the subjects had completed two semesters in the C.U.C. Learning Laboratory program, pre and post test scores from equivalent forms of the Nelson-Denny Reading Test were compared. Differences of means

were analyzed by applying the t-test with the level of significance established at .05. The specific hypothesis to be tested was:

$H^1$ There will be no significant difference between the success and failure groups in gains in reading vocabulary, rate, and comprehension, as demorstrated on pre and post tests.

Background information considered to be important for college success was collected from questionnaire. The following categories were correlated with success or failure: Sex, urban-rural, race, income, ACT scores, and General Studies orientation grades. These categories were considered in order to provide descriptive data for future selection of high-risk students. The general hypothesis is that the students who maintained progress toward graduation would not differ significantly from the failures with regard to each of the above categories. A chi-square test was used to analyze the data with the level of significance set at the .05 level.

The specific hypotheses to be tested were:

$H^2$ There will be no significant difference between the success and failure group and GSO orientation grades. This grade is indicative of dependability.

$H^3$ There will be no significant difference between the success and failure groups and ACT scores.

$H^4$ There will be no significant difference between the success and failure groups with regard to sex.

$H^5$ There will be no significant difference between the success and failure groups on the income scale.

$H^6$ There will be no significant difference between the success and failure groups with regard to race.

$H^7$ There will be no significant difference between the success and failure group and area from which they come (urban-rural).

In an attempt to improve screening of subsequent high risk groups, the Cattell 16 P.F. Scale was administered to determine which personality factors would correlate with academic success. The t-test was used to analyze these data. The following hypotheses investigated the interrelationships between the 16 Personality Factors of the Cattell 16 P.F. Scale and the success or failure of the students in the experimental group.

$H^8$ There will be no significant difference between successful and failing students on Factor A--reserved as opposed to outgoing.

$H^9$ There will be no significant difference between successful and failing students on Factor B--concrete as opposed to abstract thinking.

$H^{10}$ There will be no significant difference between successful and failing students on Factor C--easily upset as opposed to calm, mature.

$H^{11}$ There will be no significant difference between successful and failing students on Factor E--humble as opposed to aggressive, assertive.

$H^{12}$ There will be no significant difference between successful and failing students on Factor F--sober, serious as opposed to happy-go-lucky.

$H^{13}$ There will be no significant difference between successful and failing students on Factor G--expedient, disregards rules as opposed to conscientious.

$H^{14}$ There will be no significant difference between successful and failing students on Factor H--shy-timid as opposed to venturesome, uninhibited.

$H^{15}$ There will be no significant difference between successful and failing students on Factor I--tough-minded, self-reliant as opposed to tender-minded, over-protected.

$H^{16}$ There will be no significant difference between successful and failing students on Factor L--trusting as opposed to suspicious.

$H^{17}$ There will be no significant difference between successful and failing students on Factor M--practical, careful as opposed to imaginative, careless.

$H^{18}$ There will be no significant difference between successful and failing students on Factor N--forthright, unpretentious as opposed to shrewd, calculating.

$H^{19}$ There will be no significant difference between successful and failing students on Factor O--self-assured, confident as opposed to apprehensive, worrying.

$H^{20}$ There will be no significant difference between successful and failing students on Factor $Q_1$--conservative, respects established ideas as opposed to liberal, experimenting.

$H^{21}$ There will be no significant difference between successful and failing students on Factor $Q_2$--group-dependent, joiner as opposed to self-sufficient, resourceful.

$H^{22}$ There will be no significant difference between successful and failing students on Factor $Q_3$--undisciplined as opposed to controlled.

$H^{23}$ There will be no significant difference between successful and failing students on Factor $Q_4$--relaxed, unfrustrated as opposed to tense, frustrated.

# CHAPTER II

## REVIEW OF THE LITERATURE

### Introduction

A review of the literature concerning academic support programs reveals a paucity of studies reporting combination approaches to the salvaging of failing college students. Longitudinal data including accountability in terms of grade point achievement, are rare, indeed. Programs similar to the one described in this study are generally compensatory in nature and designed to serve minority or disadvantaged groups. Because this study is a combination approach to salvaging college students and includes reading, study skills, and counseling, the review of the literature deals with college reading programs, study skills efforts, and counseling programs which stressed goal and achievement motivation. In addition, since the study attempted to answer questions pertaining to background and personality factors associated with successful college students, the literature in these important related areas has been reviewed.

## Academic Support Programs

The most complete examination of academic support programs available for this study was conducted by graduate interns at Xavier University of Louisiana in 1969.[4] The unpublished manuscript which reports the findings includes a survey of ten colleges and universities. The rationale for these particular academic support programs was based on recognition of the fact that school systems had failed to provide adequate programs of preparation for many students, preparation which would enable them to succeed in a college environment.[5] These students, according to the report, were often academically handicapped through racial, cultural, social or economic conditions. "Contrary to popular belief, these students are not emotionally and/or intellectually inferior to other segments of the population."[6]

> Academic failure may be caused by insufficient communication skills, poor self-concept or alienation and rejection of the school and the teacher

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[4]Mohamed J. Shaik, Director. An Analysis of Academic Support Programs, Unpublished manuscript, Xavier University of Louisiana, New Orleans, La., 1969, p. ii.

[5]Ibid., p. vii.

[6]Edmund W. Gordon and Doxey A. Wilkerson, Compensatory Education for the Disadvantaged, (New York: CEEB Press, 1966), p. 1.

> as a symbol of authority in an unfair and discriminatory situation. This condition may be caused by the failure of the school to offer relevant activities to the student's personal goals. It can also be a result of physical conditions, such as poor health, lack of proper nutrition, and lack of quiet to permit study.[7]

The academic support programs investigated by Xavier interns were attempts to insure success of students through adjustment or improvement in the learning environment, application of proper materials for learning, and goal orientation. The programs were described generically as service systems, but most of the programs were designed for young people handicapped by poverty, cultural deprivation, or racial prejudice. The central belief was that youth from the culture of poverty have different needs from middle class youth.[8] On the other hand, other researchers have found unsuccessful college students representing all segments of the population, with over-indulged students showing the same characteristics as those considered to be economically deprived.[9] A number

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[7]Frank Riessman, The Culturally Deprived Child, (New York: Harper and Brothers, 1962), p. 2.

[8]W.E. Amos and J.O. Grambs, Counseling the Disadvantaged Youth, Englewood Cliffs, N.J.: Prentice-Hall, 1968, p. iii.

[9]Robert Pitcher, Ph.D., in a speech to Eastern Kentucky University Administrative Personnel, May, 1969.

of characteristics, however, may be common to students who find themselves in academic difficulty: 1) Social alienation, caused by physical, racial or ethnic problems, 2) Geographic isolation, 3) Low parental expectations, and 4) Peer influences.[10]

Minority groups seem to constitute the major focus for many academic support programs. Dr. John Fischer of Teachers College has stated that talent of minority students should be nurtured through programs which:

1) help the student make the most of his capacities,

2) enable the student to acquire the intellectual skills necessary for a life of continuous learning,

3) prepare the student to find for himself a productive, significant role in the world.[11]

Although the major portion of programs currently operating are minority groups and economically disadvantaged, various types of programs have been developed for underachievers representative of every group in

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[10]Gordon and Wilkerson, "Compensatory Education for the Disadvantaged," p. 10.

[11]W.C. Kvaroceus, J. S. Gibson, and T.J. Custin, Poverty, Education and Race Relations: Studies and Proposals (Boston: Allyn and Bacon, 1967), p. 34.

public schools and colleges. Rockland College of New York operated a program for underachievers with emphasis on English, Mathematics, and Techniques of Learning in 1967.[12]

Of the college programs investigated by Xavier University interns, typically, all were designed for minority or economically disadvantaged groups. Antioch, the University of California, the University of Wisconsin, and Southern Illinois University had federal assistance whereas the program reported at Eastern Kentucky University and at Wesleyan University were institutionally supported.[13] Results vary from positive in terms of evaluations and student holding power to less than forty percent effectiveness.

Evaluations of compensatory programs were reviewed by Edmund Gordon in 1970.[14] Gordon stated that between 1968 and 1970 more than $10 billion had been invested in education of poor and minority groups at all levels of

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[12]M.O. Nelson, "Individual Psychology as a Basis for the Counseling of Low Achieving Students," Personnel and Guidance Journal, 1967, 46, pp. 283.

[13]Shaik, "Analysis of Academic Support Programs," pp. 43-57.

[14]Edmund W. Gordon, "Compensatory Education Evaluation in Perspective," IRCD Bulletin, (New York: Teachers College Press, December, 1970), 6, p.2.

education and at least $75 million had been spent on evaluations and special research projects. "Despite this enormous expenditure, we are still not able to make definitive statements concerning the value of compensatory education. Evidence of the value of our efforts is modest, if it exists at all."[15] Gordon further stated that there are few intensive, qualitive and systematic evaluations of compensatory education and admitted that solid research studies are needed.

William Trent surveyed eighteen college programs for disadvantaged students in 1970, and commented that more and more colleges across the nation are providing special compensatory programs for students from socially, economically, and educationally disadvantaged backgrounds.[16] Trent found that most of the eighteen programs did not provide combination skill development, tutoring and counseling in concert. On the other hand, the programs did offer financial aid, social and academic counseling

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[15]Gordon, "Compensatory Education Evaluation in Perspective," p. 2.

[16]William Trent, "College Compensatory Programs for Disadvantaged Students," ERIC 042932, September, 1970, p. 15.

without concerning themselves with study skills and small group tutorials. Wisconsin's Ripon College was the exception in the survey, having made provisions for the earning of academic credits for pre-college course-content classes.[17]

A status report on compensatory education was developed by Adelaide Jablonsky for the IRCD Bulletin in 1971 and concentrated on survival records of compensatory programs.[18] This report dealt primarily with elementary and secondary, pre-college, programs, but an important point pertinent to this thesis emerged. The single element reported as having contributed most to the success of the program was variously reported as "one-to-one or one-to-small group instructor-student ratio."[19] Concentrated guidance services, parent involvement, cooperation from associations within the community, enthusiasm, cooperation, and dedication of the staff resulted in positive program results.

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[17] Ibid, p. 13.

[18] Adelaide Jablonsky, "Status Report on Compensatory Education," IRCD Bulletin (New York: Teachers College Press, Spring, 1971), 7, p. 1.

[19] Ibid., p. 2.

In a study entitled "The Effects of Special Tutoring and Counseling on the Academic Success of Negro Freshmen at Southern State College," no significant differences between an experimental and control group of freshmen were reported. This study included 89 Negro freshmen entering with less than a 2.0 grade point average as well as those with a 2.0 average or more. Tutoring and counseling were provided for the experimental group, but no significant improvement in grade point averages resulted.[20] The results are similar to findings of the C.U.C. Learning Laboratory staff with regard to a special advising program for a randomly selected group of fifty entering freshmen. Data from the control group of freshmen randomly selected, and the experimental group showed no significant difference in grade point achievement at the end of one semester. By the end of the second semester, however, a tendency toward higher grades within the experimental group was obvious but still not significant.[21] Therefore, the Learning Laboratory staff felt

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[20]Ralph Wilson, "The Effects of Special Tutoring and Counseling on the Academic Success of Negro Freshmen at Southern State College," ERIC, University of Mississippi, (Sept., 1970), p. 98.

[21]Unpublished report, "Experimental and Control groups of Freshmen Advisees whose ACT Scores in English were under 14," Prepared by the C.U.C. Learning Laboratory Staff at Eastern Kentucky University, Spring 1970 and Spring 1971.

that only students who had been terminated from the University for academic failure would respond to Learning Laboratory treatment which is based on felt needs of the students. In other words, even though freshmen are near failure, most are not receptive to counseling and skill development-tutoring techniques until they have been dismissed by the University

Perhaps the most relevant studies for purposes of this report are those dealing with college drop outs who returned to earn degrees. A longitudinal study by Bruce K. Eckland, one of the few found in the literature, presented data gathered in 1962 concerning former University of Illinois students who eventually earned degrees.[22] The author maintains that [illegible] the normal progression to graduation, and that 70% of the males sampled eventually graduated, not necessarily at the University of Illinois. However, this group had not been terminated for academic failure, but had dropped out for numerous reasons, including military service, financial problems, and low grades.

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[22]Bruce K. Eckland, "College Dropouts who Came Back," Howard Educational Review, (Summer, 1964) 34 n 3, p. 402-420.

The only longitudinal data available in the literature which reports a program for academic failures similar to the design of the Learning Laboratory is from the Educational Development Center at Berea, Ohio. The Center amasses information on eighty variables and follows the academic career of each student for at least two years after he leaves. Of the 325 academic failures who have attended the Center's ten-week course, as of May, 1968, 97 percent have reenrolled in college and had completed more than 10,000 credit hours with an average grade-point of 2.41. At that time, fifteen had graduated from college with another sixty expected by June, 1968.[23] Vocabulary building, note-taking, research techniques, reading, writing, speaking, and discipline are all built in to the ten week course which costs $600. Dr. Robert Pitcher, Director of the Center, maintains that verbal skills of academic failures can be improved by practice and one's confidence can be enhanced through attention to such skills and through improved self concepts. Dr. Pitcher takes exception to the idea that special programs should be available for minority and disadvantaged groups

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[23]Dennis W. Binning, "Who's Failing College Flunk-Outs?" College and University Business, (New York: McGraw-Hill, Inc., May, 1968), p. 2.

only. Emotional problems and cultural deprivation which lead to academic failure cut across every class, economic and color line and are found within middle class and wealthy groups as well as in ethnic and economically disadvantaged populations.[24]

> The unexpected fact is that both wealth and poverty can create similar learning problems in students. The search for instant gratification in the poor and privileged and the lack of motivation found in both groups is the antithesis of the educational process with its demands of hard work and long-range goals. The poor receive the sympathy and guilt of their culture and attempts are made to solve their problems. The middle and upper class students are often the ignored casualties of education.[25]

Of the programs reported in the literature, the Educational Development Center program is most similar to the one followed by the C.U.C. Learning Laboratory, but one may argue that people will naturally work harder to improve in a program for which they are paying a high fee. The Learning Laboratory required no fee in addition to normal tuition payments.

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[24]Robert W. Pitcher, "Challenges to Common Concepts of Potential," a paper presented to the institute Understanding Underachievement in the College Years, Educational Development Center, Berea, Ohio, July, 15, 1968, p. 10.

[25]Ibid., p. 10.

## Reading and Study Skills Programs

The voluminous literature on college reading and study skills programs is controversial when attempts are made to correlate improvement with grade point achievement. There appears to be agreement among researchers when the question is one of proof concerning increased reading rate, comprehension, vocabulary scores and study skills as measured in pre and post test situations.[26] However, when the review of the literature concerns a significant increase in grade point averages following reading and study skills courses, the results are equivocal. More and more colleges and universities throughout the United States are providing reading and study skills courses for their students in the hope that such services would assist students in achieving better grades. The University of Missouri reading improvement program described by King and Delande[27] is considered to be an asset by university officials who feel that reading

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[26]Arthur Cohen, "Measurement and Evaluation in Junior College Reading Programs," Junior College Research Review (October, 1971), 6, p. 21.

[27]Paul T. King and William Delande, "The University of Missouri Reading Improvement Program," The Journal of Reading (April, 1965), 8, pp. 307-310.

has a significant bearing on the students' academic success. After investigating the problems of scholastic achievement Embree[28] stated that there was no single formula to solve the problems of education, but that reading had to be emphasized. His studies illustrated that the best measure of a student's capacity to be educated is his ability to read and study for himself. Similarly, research by Bennett[29] called attention to the proposition that reading programs have helped college students increase their scholastic achievement. These findings were corroberated in a controlled study by Belcher[30] in which two-thirds of the college students in the experimental groups achieved a higher grade point average the semester following a reading-study-skills course. The same significantly improved grade point average occurred following a summer workshop for college

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[28]Edwin R. Embree, "Can College Students Read," Saturday Review of Literature (May, 1958), p. 59.

[29]Chester C. Bennett, "It's Not Too Late to Learn to Read," Efficient Reading, (Boston, Mass.: D. C. Heath & Co., 1962), p. 19.

[30]Michael J. Belcher, "The Effect of Increased Reading Efficiency Upon Semester Grade Point Average," The Journal of Reading (March, 1971), 14, pp. 381-5.

students conducted by Maxwell and Zitterkopf.[31] Another investigator, Paul T. King,[32] found significant grade point gains for students the semester following their enrollment in a college reading course and similar findings were reported by McGinnis[33] in a study correlating results of a reading-study-skills course with increased grade point average. Dalton, Glieassman, Guthrie, and Rees[34] conducted a study using three groups. The reading group had instruction in reading improvement, the orientation group had instruction in study skills, and the control group had no instruction at all. It was found that the students in the reading group maintained a higher grade point average the semester after reading instruction than did the other two groups. However, after three semesters, the grade point averages between

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[31]Martha J. Maxwell and Deanna Zitterkopf, "Evaluation of Workshop Offered Students the Summer of 1964," Reading and Study Skills Laboratory, Research Report 11 65-01, Counseling Center, University of Maryland, 1965, p. 3.

[32]Paul T. King, "The Prediction of Change in GPA from Initial Reading Rates," Journal of Reading (December, 1969), 13, p.215.

[33]Dorothy McGinnis, "Correctional Reading: A Means of Increasing Scholastic Attainment at the College Level," Journal of Educational Psychology (March, 1957) XL11, p. 173.

[34]Patrick Dalton, David Gliessman, Harriet Guthrie, and Gilbert Rees, "The Effect of Reading Improvement on Academic Achievement," Journal of Reading (March, 1966), 9, p. 251.

the reading group and study skills group was not significant.[35] These findings are contrary to those reported by Freer in a study of Odessa, Texas college students.[36] Students who took the reading course in Odessa earned a significantly higher grade point average than the control group, and they retained most of the gains made in reading scores for a period of at least one year. Participation in a reading improvement course resulted in a significant improvement in academic performance in social science and over-all academic performance. These findings were significant beyond the .05 level of confidence according to Loren Stebens at Oklahoma State University.[37]

On the other hand, a number of studies report no significant difference in terms of grade point achievement after reading-study skills courses. Colvin, for example, found no significant improvement in grade point averages of those who took a reading-study skills course and those

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[35]Charles R. Colvin, "A Reading Program That Failed-Or Did It?" Journal of Reading (November, 1969), 12, p. 143.

[36]Imogene Johns Freer, "A Study of the Effect of a College Reading Program Upon Grade-Point Average in Odessa College, Odessa, Texas," Dissertation Abstracts, Michigan State University, (December, 1965), p. 601.

[37]Loren Duane Stebens, "A Study of the Relationship Between Reading Skills and Academic Achievement in Specific Subject Matter Areas," Dissertation Abstracts, Oklahoma State University, (June, 1968), 28, p. 4861.

who did not.[38] In a study of the influence of an effective study course upon academic achievement of students at the University of Mississippi, Wilson[39] reported no significant difference in academic achievement between study and control groups. The same general findings were reported by Durkee[40] in a study designed to determine the effectiveness of a short-term study-skills course for third-quarter college freshmen who were placed on probation because of poor grades. The researcher reported no significant differences between the mean of the control and experimental groups.

One of the most recent studies reported in the literature concerned a university study skills program at the University of Manitoba, Winnipeg, Canada. Ritter[41] followed the color underlining techniques devised by Dr. David Wark at the University of Minnesota and presented

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[38]Charles R. Colvin, "Theory and Objective in College Reading," Reading Improvement, (Fall, 1971), 8, p. 13.

[39]Robert Donley Wilson, "The Influence of the Effective Study Course at the University of Mississippi Upon Academic Achievement," Dissertation Abstracts, The University of Mississippi, (January, 1968), 29, p. 1058.

[40]Peter Easton Durkee, "An Investigation of the Effectiveness of a Short-Term Study Skills Course for Third Quarter Freshmen on Academic Probation," Dissertation Abstracts, University of Southern Mississippi,(December, 1966), 26, p. 466.

[41]Joyce H. Ritter, "University Study Skills Program," Journal of Reading, (March, 1971), 15, p. 377-380.

on tapes. Student evaluations gave credit to the course for the resulting improvement in academic performance, but the researcher concluded that the overall increase in GPA could not be attributed solely to the study skills program.

In a survey of college reading-study-skills courses, Entwisle arrived at the conclusion that overall judgment about the benefit accruing from these courses needs to be tempered somewhat "in spite of the uniformly positive results, by awareness that negative results are much less apt to be published than positive results. Nevertheless, the uniformly favorable results as reported are striking, when one considers the wide variation in kind of course reading to improvement, and the disparate kinds of students enrolled."[42] Entwisle concluded that the evaluative investigations of study-skills course seemed to bear out the conclusions that: 1) a study skills course will usually be followed by improvement, and 2) a course will be most beneficial for students desiring to take it.[43]

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[42]N.L. Entwisle, "The Relationships Between Personality, Study Methods, and Academic Performance, British Journal of Educational Psychology (June, 1970), 40, p. 132-43.

[43]Ibid., p. 250.

No definitive statement concerning the value of college reading and study skills courses can be made following review of the literature because results are inconclusive. There are many studies reporting positive results, but almost as many reporting no significant difference.

## Counseling and Achievement Motivation

Most educators feel that guidance and counseling for students in academic support programs is vital to success. George E. Hill[44] reported in his writing that if guidance is to contribute to academic support, it must be performed with a reasonable opportunity to produce changes in the school and must be directed to the needs of the students. According to Nelson[45] at Rockland College, New York, a remedial course using the individual psychology of Alfred Adler as a theoretical basis for remedial counseling, resulted in modest but significant improvement in the level of student achievement.

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[44]D.E. Hill, Management and Improvement of Guidance, (New York: Appleton-Century-Crofts, 1965), p. 18.

[45]M.O. Nelson, "Individual Psychology as a Basis for the Counseling of Low Achieving Students," Personnel and Guidance Journal (November, 1967), 46, pp. 283-287.

Empirical evidence has established that small groups have a significant influence on increasing interpersonal effectiveness.[46] Furthermore, a group of psychologists including Steven Danish and Joseph Zelenski believe that increasing interpersonal effectiveness through direct, **mutual** communication is a skill and thus can be taught effectively.[47] Most people need to expand awareness of their own talents and potentialities. A review of the literature related to group counseling shows that professional counseling of students who have been dismissed from college provided for an increase in self confidence. Heller[48] reported that every student in one particular study met weekly to review his personal and vocational goals, discuss college problems, and through group interaction increased understanding of himself and developed intellectual honesty. These group exchanges point up the fact that peer group relationships seem to be a key

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[46]J.P. Campbell and M.D. Dunnette, "Effectiveness of T-group Experience in Managerial Training and Development, Psychology Bulletin (Winter, 1968), 70, p. 73.

[47]Steven Danish and Joseph Zelenski, "Structured Group Interaction," Journal of College Student Personnel (January, 1972), 13, p. 52.

[48]Herbert L. Heller, "Strengthening Character Traits of College Underachievers," Phi Delta Kappan (June, 1968, 49, p. 592.

to academic success. According to Cervantes[49] acceptance as a person, depth of intercommunication, and pleasurable experiences including extra-curricular activities influence performance in a positive direction. Another goal of small groups must be "interpersonal openness" which results in increased self-insight, self-awareness and increased sensitivity to the behavior of others.[50] All goals, however, look to increased personal effectiveness through direct communication.[51] One study reported in the literature found that by recognizing and rewarding students' abilities and worth as human beings, instructors could effectively help students perform well.[52] Underlying the use of positive feedback (rewards), in this study is the work done by Herbert Otto,[53] Betty Berzon,

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[49]Lucius F. Cervantes, The Dropout (Ann Arbor, Mich.: University of Michigan Press, 1965), p. 198-199.

[50]L.P. Bradford, J.R. Gibb, and K.D. Benne, T-Group Theory and Laboratory Method (New York: Wiley, 1964), p. 6.

[51]C. Argyris, T-Groups for Organizational Effectiveness, Harvard Business Review (January, 1964), 42, pp. 60-74.

[52]Robert F. Edgerly, "Counseling in Norwell," Journal of Education, Boston (October, 1971), 154, p. 59.

[53]Herbert A. Otto, Group Methods to Actualize Human Potential, (Beverly Hills, Calif.: The Holister Press, 1970), p. 271

Jerome Reisel, and David B. Davis.[54] These researchers found that within groups change in a positive direction occurs when 1) personal strengths, rather than weaknesses, and 2) potentialities rather than deficiencies are stressed. The focus of their program became what was enhancing and creative in the participant, rather than what was limiting and constricting.[55]

The American College Personnel Association recognizes the potential of group experience as an effective educational method. However, "any group experience should be purposefully designed to achieve certain explicit goals and should be communicated openly to all participants."[56] The C.U.C. Learning Laboratory staff believed that each group must have an explicit purpose in order for the experience to be productive. Therefore, small groups actually served two purposes: 1) to develop study skills and 2) to create an environment for

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[54]Betty Berzon, Jerome Reisel, and David P. Davis, "Peer: An Audio Tape Program for Self-Directed Small Groups," Journal of Humanistic Psychology (Spring, 1969), 9, p. 71-86.

[55]Ibid, p. 73.

[56]Task Force, "A Proposed Statement for ACPA Regarding the Use of Group Experiences in Higher Education," Journal of College Student Personnel (January, 1972), 13, p. 94.

discussion of problems of common concern. The staff believed that insight and self awareness could be developed through the utilization of small groups, but it was essential that groups' be provided with topics for discussion. Since students were assigned to study groups organized to encourage subject mastery (Western Civilization, for example), group members established relationships that allowed for counseling procedures later in the semester. This approach was similar to that reported by Higgins, Ivey, and Uhlermann whose statement follows: "It is not enough just to provide assistance in techniques of interaction without attempting to facilitate the group members' focus of concern by providing possible areas of discussion."[57] These researchers, however, did not confront difficulty in finding topics to discuss in small groups because their client had intact relationships, and they were seemingly discussing common concerns.

In studies not concerned primarily with stressing positive attitudes, results of group counseling with college underachievers vary. Robert Coleman Berg's

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[57]W.H. Higgins, A.E. Ivey, and M.R. Uhlermann, "Media Therapy: A Programmed Approach to Teaching Behavioral Skills," Journal of Counseling Psychology (January 1970), 17, pp. 20-26.

study of the effect of group counseling on students on academic probation at Rockford, Illinois, revealed no significant change with regard to academic achievement before and after counseling.[58] However, results of Berg's investigation indicated significant changes in behavior associated with the process level of group interaction. In a group counseling study which concentrated on expectancy statements to encourage academic performance, Meichenbaum and Smart[59] reported that in two of four courses, students who were given direct expectancy statements that they had the potential ability and interests to blossom, did in fact improve relative to control groups. The subjects' attitudes toward their own self-confidence and feelings of likelihood of success were altered. In a study directed by Dickenson and Truax,[60] 24 experimental students who received group counseling for college underachievers,

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[58]Robert Coleman Berg, "The Effects of Group Counseling on Students Placed on Academic Probation at Rock Valley College, Rockford, Illinois, 1966-67," Dissertation Abstracts, (October, 1968), 29, p. 115.

[59]Donald H. Meichenbaum and Ian Smart, "Use of Direct Expectancy to Modify Academic Performance and Attitudes of College Students," Journal of Counseling Psychology (November, 1971), 18, pp. 531-535.

[60]Walter A. Dickenson and Charles B. Truax, "Group Counseling With College Underachievers," Personnel and Guidance Journal (November, 1966), 45, p. 247.

showed greater improvement in grade point average than 24 matched non-counseled control subjects. Appropriate and inappropriate group counseling with academic underachievers was the concern of a study reported by Stuart Galbreath at the University of Cincinnati.[61] The study attempted to determine whether or not college male underachievers who participated in methods of group counseling congruent with their needs for dependence or independence would achieve a significantly higher GPA at the conclusion of the counseling period and 3 months later. The results showed that men who experienced appropriate methods of group counseling achieved significantly higher grades than men in the control group, but three months following the experiment there were no differences between groups.

It appears from the evidence cited that counseling techniques alone may not have a lasting influence on achievement, but in concert with skill development programs, counseling which concentrates on positive reinforcement seems to have value for students in academic difficulty.

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[61]Stuart H. Galbreath, "Appropriate and Inappropriate Group Counseling With Academic Underachievers," Journal of Counseling Psychology (July, 1968), 15, pp. 506-511.

## Background Factors

In surveying the literature dealing with academic failures, consideration of a number of background factors is appropriate. Socioeconomic data, sex, race, urban/rural hometown, and family expectations may influence success or failure of college students. In an investigation of background factors of students with high aptitudes, Astin[62] found that "students who drop out of college come from lower socioeconomic backgrounds, are more aloof, self-centered, and impulsive than those who remain in school. Gilmore[63] reported in a study of high achievers that those who achieved had enjoyed more economic security. In addition, Gilmore found that moral support and expectations of attainment of a college degree were assumed to be important for academic success.[64] Lack of success in the educational system can be a result of the lack of "educational tradition" in the home which

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[62]Alexander W. Astin, "Personal and Environmental Factors Associated With College Dropouts Among High Aptitude Students," Journal of Educational Psychology (August, 1964), 55, pp. 219-227.

[63]John V. Gilmore, "The Productive Personality," Journal of Education, (October, 1971), 154, p. 27.

[64]Ibid, p. 27.

may contribute to low motivation or low exposure to the advantages of education.[65] With regard to sex differences in predicting academic success in college, in a study conducted at Lynchburg College Virginia, there was no significant difference in the two groups (men and women).[66] Nelsen and Frost examined three background factors involved in academic achievement, area of residence, social class, and anomie.[67] Rural respondents in this study attributed success to good education and their belief in the inferiority of their schools indicated an awareness that opportunity for success was restricted. Educational aspirations in Minnesota, rural-urban comparisons, on the other hand, made little difference in achievement. It was revealed from the study by Nelson, that neither intelligence, rank, nor school size accounted for aspirational differences and expecta-

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[65]Frank Riessman, The Culturally Deprived Child (New York: Harper and Brothers, 1962), pp. 4-5.

[66]Larry Dale Flora, "Predicting Academic Success at Lynchburg College from Multiple Correlational Analysis of Four Selected Predictor Variables," Dissertation Abstracts, University of Virginia, (February, 1967), 27, p. 2276.

[67]Hart M. Nelsen and Eleanor Frost, "Residence, Anomie, and Rerceptivity to Education Among Southern Appalachion Presbyterians," Rural Sociology, (December, 1971), 36, p. 521.

tions of achievement.

With regard to the background factor, race, H. J. Eysenck in New Society takes issue with authors who suggest genetic factors as more pertinent to issues in education than are environmental factors.[68] A look at college students of the 70's shows that half of the group is Caucasian with about a fourth Black, and about 15 percent other minorities.[69]

> One of the most persistent misunderstandings of the educational community as well as the broader society is that most 'remedial' students are members of minority ethnic groups. It is just not true; the majority of the lowest-third high school graduates are white. Most community colleges (64 percent) offering special programs for students who are poorly prepared academically report that fewer than one-fourth of the students enrolled in such programs are members of ethnic minorities.[70]

The Cross report further stated that two-thirds of the new students are first generation college students; their fathers have never attended college, and two out

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[68]H.J. Eysenck, "Race, Intelligence. and Education," New Society (June. 1971), 17, p. 1045.

[69]K. Patricia Cross, "New Students of the 70's." The Research Reporter (December. 1971), 6, p. 2.

[70]Ibid., p. 2.

of three of the fathers are blue-collar workers. In addition the new students of the 70's reveal inclinations toward passive learning situations, and those who work with them rank "lack of effort" as the major obstacle to learning, rating it above poor home background, poor schooling or low intelligence.[71]

It appears that a number of background factors influence college success, and because the college students of the 1970's are coming from lower class rank and from homes having lower educational expectations, provisions need to be made for their assimilation into academic life, and programs to neutralize negative influences need to be initiated.

## Personality Factors and Academic Success

After reviewing literature related to personality traits and academic success one must conclude that there is a paucity of studies comparing these factors. Certainly a need for further research is indicated, especially when one considers the studies of O'Halloran[72]

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[71] Ibid., p. 3.

[72] A. O'Halloran, "An Investigation of Personality Factors Associated With Underachievement in Arithmetic and Reading," M.S. Thesis, Purdue University, 1954.

which demonstrated that part of the variance in scholastic achievement can be predicted by personality measurement. A study related to reading achievement and personality adjustment of superior and inferior readers was conducted by Norman and Daley who analyzed 67 different items.[73] The following cluster of needs differentiated superior from inferior readers: poor family interaction, rejection by others, frustration-aggression, conflicts about other-dominance, and environmental deprivation.[74] An investigation of academic achievement for different college atmospheres revealed that different kinds of colleges reward different kinds of students.[75] The results of this particular study suggest that "nonintellectual variables such as superego, persistence, and deferred gratification are useful in prediction and in understanding the nature of the academic achiever."[76]

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[73]Ralph D. Norman and Marvin F. Daley. "The Comparative Personality Adjustment of Superior and Inferior Readers," Journal of Educational Psychology, (February, 1959), 50, p. 34.

[74]Ibid., p. 35.

[75]John L. Holland, "Prediction of College Grades from Personality and Aptitude Variables," Journal of Educational Psychology, (October 1960), 51, p. 245.

[76]Ibid., p. 253.

Personality trait ratings are being requested by many universities when they consider applicants. In a study by Gardner, ratings were collected for six traits; reliability, industry, cooperation, initiative, efficiency, and accuracy. Then, coefficients of correlation were calculated between the average ratings and the grade point averages earned during the first year in college.[77] Statistically significant correlations were found between ratings on all traits and grade point averages.

In a study of introverts' and extraverts' performance in a college reading program, Whitehill and Jipson found that "extraverts work best in highly structured attention-focusing conditions whereas introverts find such structuring unnecessary. This is consistent with the position that extraverts work more successfully under blame or punishment conditions as such conditions refocus attention inward to the task to be performed; while reward or praise conditions tend to focus attention outward."[78]

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[77]Marion E. Gardner, "Prediction of Academic Success in College from Personality Trait Ratings Obtained for High School Graduates," Dissertation Abstracts, (December, 1958), 20, p. 2028.

[78]Richard P. Whitehill and Janice A. Jipson, "Differential Reading Program Performance of Extraverts and Introverts," The Journal of Experimental Education (Spring, 1970), 38, p. 93-96.

Cervantes reported a strong sense of "not belonging" and no participation in extracurricular activities as contributing to the lack of academic success.[79] Panos and Astin found that students are more likely to complete four years of college successfully if they enjoy peer relationships characterized by cohesiveness and cooperation.[80]

According to Gilmore, "In the causes for low achievement we can see an inability to manage time, covert hostility, poor ego strength, and over-active defense mechanisms."[81] Robert Alberti found that students who had high academic performance, on the other hand, were more trusting, ethical in relations with others, and had a strong concern for the feelings and welfare of people around them.[82]

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[79]Cervantes, The Drop Out, p. 199.

[80]Robert J. Panos and Alexander W. Astin, "Attrition Among College Students," American Educational Research Journal (January, 1968), 5, p. 62.

[81]Gilmore, "The Productive Personality," p. 34.

[82]Robert E. Alberti, "Influence of the Faculty On College Student Development," Journal of College Student Personnel, (January, 1972), 13, p. 19.

More research needs to be conducted in order to refine methods for screening potentially successful students and for helping those students who need assistance to develop strengths necessary for academic success.

# CHAPTER III

## PROCEDURE

This study is the longitudinal follow-up of 37 students who achieved enough improvement during Fall Semester, 1969, to be allowed to register for Spring Semester of 1971. The data reported in this study were gathered on the sample of 37, and correlations were run on the subsequent success or failure of students in that group.

### Selection of Subjects

During the summer of 1969, fifty seven students who had failed to meet academic standards required at Eastern Kentucky University were invited to participate in an experimental program designed to assist students in academic difficulty. Their names were selected from the university probation list, and their transcripts, ACT scores, and high school grade point averages (when available) were considered. Regardless of their home areas, socioeconomic background or major field of study, if students had graduated from high school with a "C" average, they were viewed as having potential for college

work. Students with high ACT scores and failing grades were avoided, but ACT scores, showing composites of 15 and under were deemed acceptable. (The mean score for entering freshmen on the composite scale was 18.)[83] Intelligence tests, per se, were not administered to the group as a whole because the experimental program presupposed that certain non-intellectual factors--self concept, family and peer pressures, personality and background factors, and simple inertia, were inseparable from intellectual aspects involved in academic achievement.

Of the 57 subjects in the Fall Semester sample, data from exit interviews revealed that five stopped attending class when their draft numbers were drawn, two enlisted, one received his draft notice and stopped class attendance, three female students decided to get married and consequently made little effort to achieve, one had financial problems and had to drop out, and nine failed for no particular mitigating circumstance. This longitudinal study deals with the 37 students who were followed through from September, 1969.

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[83]Office of Research, Eastern Kentucky University, November, 1971.

## Treatment

A procedural outline for the C.U.C. Learning Laboratory offers an overview of the program.

### Outline of Procedures

I. Intake interview

- A. Personal data sheet including family background, physical condition, career expectations
- B. American College Testing Program (ACT) scores
- C. High school grade point average (GPA) and college transcript
- D. Personal interview

II. Testing sessions

- A. Tests routinely administered
  1. Nelson-Denny
  2. Co-operative English and Spelling Test or McGraw-Hill English Test
  3. Brown-Holtzman Survey of Study Habits and Attitudes or Minnesota Study Skills
  4. Writing sample
- B. Career counseling (as needed)
  1. Interest Inventory-Kuder DD
  2. College Interest Inventory
  3. General Aptitude Test Battery
- C. Individual intelligence test (as needed)
- D. Vision and auditory screening (as needed)

III. Academic skill sessions

- A. Reading and study skills (seven weeks)
  1. Comprehension and rate drills
  2. Vocabulary development
  3. Study skills

a) How to take notes
b) How to listen
c) How to study for and take examinations
d) How to spell

B. Sessions for small groups in social sciences or English (all semester)

1. Forced writing
2. Background building

a) Resource materials
b) Filmstrips and records
c) Programmed materials

3. Oral communication
4. Essay test practice
5. Vocabulary practice correlated with course requirements
6. Utilization of study skills learned in previous sessions

C. Programmed materials for background in various areas

IV. Counseling sessions

A. Basic needs for status and improved self-concept

1. Achievement motivation
2. Group processes

B. Individual counseling (bimonthly and as needed)

1. Staff evaluation
2. Self-evaluation

Following an intake interview, Form A of the Nelson-Denny Reading test was administered. During this phase, students were also asked to complete questionnaires concerning family background, physical condition, and general career expectations. If goal orientation seemed

vague, interest inventories and aptitude tests were administered at a later date and results interpreted to the student individually.

The second phase of the program concentrated on developing communication skills, reading writing, and discussion sessions, in particular. Students were scheduled into a seven-week reading and study skills course which included comprehension and rate drills, vocabulary development, note-taking techniques, listening skills, spelling principles, and information on learning how to learn for examinations. Reinforcement of newly acquired skills was provided in small group study sessions where vocabulary concepts and essay test writing were emphasized. Supplementary materials which correlated with course content were made available for group and individual use.

An increasing number of studies suggest that utilization of various kinds of supplementary media induces a higher degree of subject mastery than that obtained with typical text-book approaches.[84] Students in the Learning Laboratory program were therefore directed to appropriate

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[84]Charles F. Hoban, Jr. "Research in New Media in Education," Three Conference Working Papers, Washington, D.C.: American Association of Colleges for Teacher Education, 1961, pp. 22-23.

multi-media materials when they needed clarification on difficult concepts or required additional background to understand complicated assigned readings. In addition, attention was paid to the discovery of efficient learning methods for individual students. In assessing capabilities, students were encouraged to become familiar with the modality of learning of which they were most capable. "Some individuals learn well through a variety of modalities, other individuals tend to select one particular modality in which they function best and through which they learn best."[85] Because many people learn better through auditory means or through kinesthetic means a multi-media approach was offered to students when possible. Sound filmstrips, records, tapes, and other media were available to assist students in the conceptualizing process.

Apparently, many instructors ignore the fact that oral language competence must be developed before students can read and fully comprehend selections such as The Iliad. These same instructors violate a prime consideration

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[85]Abraham Shumsky. In Search of Teaching Style, New York: Appleton-Century-Crofts, 1968, p. 160

of language development--"Oral language must come first.[86] The attitude of many professors toward records and films is astonishing when one considers that the Greeks heard the poetry of Homer. The author intended it to be heard, as delivered by a bard or rhapsode who had made the presentation of Greek epic poetry his profession, and who had command of the vocal resources and the dramatic power to move his audience. This being the case, Learning Laboratory students were encouraged to listen to parts of great works of literature such as, The Trial and Death of Socrates, after which they followed the lines of reading along with the record. These techniques have been endorsed by Edgar Dale who said that people learn by varied methods and require a "cafeteria of learning materials," easily available to all students.[87]

If students required additional background to understand complicated course work, programmed materials were assigned. Programmed learning, called by William Clark Trow the most significant advance in education in

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[86]"The Translation Problem," Newsreport, October, 1967, p. 26.

[87]J.M. Culkin, "A Schoolman's Guide to Marshall McLubon," Saturday Review, (March 18), 1967.

the last fifty years, allows students to learn at their own pace.[88] In a recent article by Klaus Bung, students of German were reported to have amazed the instructor in several instances by covering material and retaining subject matter in far less time than is provided in traditional classrooms.[89] However, teachers can enhance or destroy programmed learning, and Learning Laboratory instructors closely supervised progress of students during initial utilization of programs. One of the most interesting research findings concerns teachers in that the more interested the teacher, the better work the students do on a program.[90] Learning Laboratory teachers directed students to such programs as psychology, physical science, genetics, physics, anatomy, vocabulary, algebra, and English grammar.

So that students would derive maximum benefits from their newly acquired reading and background skills an

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[88]William Clark Trow, Teachers and Technology, New Designs for Learning, (New York: Appleton-Century-Crofts, 1963, p. 93.

[89]Klaus Bung, "Language Learning With Programmes," The Science of Learning, English Edition, V. 3, No. 1, 1967, p. 28.

[90]Wilbur Schramm, "Programmed Instruction Today and Tomorrow," Four Case Studies of Programmed Instruction, New York: The Fund for the Advancement of Education, 1964, p. 100.

intensive effort was made to inculcate proper study habits. Following Aristotle's simple dictum, "To impress, express," one obligatory rule for learning was laid down--study actively, either writing or reciting that which needs to be mastered. Students were constantly reminded that simply reading through notes and assignments would not suffice and that the preparation of fact cards for overlearning or the devising of mnemonics would give them the control over a subject necessary for superior test performance. Most were reluctant at first to spend the additional time needed to prepare themselves thoroughly, but once they earned a high grade through use of these techniques they usually became firm believers in this approach. Additional stratagems employed to promote achievement included hints on how to listen effectively in class, how to take notes, how to survey assignments, and how to best prepare for and take tests.

In conjunction with the application of the foregoing intellectual remedies, an attempt was made to influence those affective factors which contribute to academic failure. Certainly family pressures, physical problems, and negative social interaction can have devastating effects on the learning process. These, unfortunately, were largely beyond the reach of the Learning Laboratory.

About all that could be done when such problems surfaced was to provide moral support, offer advice, and refer the interested party to appropriate university or community agencies. The main thrust of the non-intellectual aspects of the program was in the improvement of self-perception through the utilization of techniques designed to modify behavior in a positive way.

The technique most commonly used was a modified form of strength bombardment designed to force students to recognize and develop their strengths rather than worry about their weaknesses. In addition, they were constantly, in subtle ways, reminded that everyone has something to offer in any given situation and that success depends on the utilization of one's particular strong points. By the same token, negative feedback was avoided in all Learning Laboratory activities.

Exercises developed by Berzon and Solomon[91] were useful in building self perception. Self description, description of others, self appraisal and learning to listen provided springboards group interaction which

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[91] Betty Berzon and Lawrence N. Solomon. Encounter-tapes, Western Behavioral Sciences Institute, La Jolla, California, 1969.

resulted in students' gaining greater self understanding and goal orientation. However, strength bombardment was employed only after small groups had been together at least a month and only positive attributes were stressed. The method helped group members gain a clearer awareness of their personality strengths and resources. Following these sessions group leaders reported that members were demonstrating an increased ability to communicate.

Insight, a game designed to test each person's powers of perception and personality was considered to be an effective technique for promoting self awareness. Each participant evaluates all other members of the group and himself during the game. Then a comparison is made between how the student perceives himself and how others perceive him.[92]

The hope was that out of utilization of these techniques would emerge a kind of subliminal understanding on the part of the participants regarding the dynamics of success and failure and that they would eventually come to a realization that, although they had experienced

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[92]Insight. Games Research, Inc., Boston, Mass., 1967.

failure in previous academic situations, the process was not irreversible. This approach naturally was more effective with some students than others, but it seems to have had an effect on almost all who survived the first semester. It worked so well on a few that they have since consistently achieved better than three-point averages.

Contrary to many counseling theories which emphasize a non-directive approach as a means of effecting changes in behavior patterns, it was learned that direct confrontations were frequently necessary to impress upon under-achievers that responsibility for performance rests ultimately with the student. Excuses for poor achievement which ascribed blame to dull teachers or "the system" were unequivocally rejected as rationalizations. Rather students were asked to examine their performance objectively, and as often as not they admitted that procrastination or inadequate preparation were the offending demons. In short the participants were forced into acquiring self-discipline through self-examination. Furthermore it was made clear from the beginning that they were expected to faithfully fulfill their Learning Laboratory obligations. Those who did not were confronted immediately with the option of doing so or leaving the University.

This is not to say that the basic structure of the operation was authoritarian; the general atmosphere was decidedly informal. Everyone was on a first name basis and the facility was decorated with bright motivational posters and colorful pictures. Comfortable carrels were provided for individual study, and several of the rooms were outfitted with small tables suitable for group work.

Attention was given to the need for status as instructors worked with Learning Laboratory students. Disregard of this basic human need on college campuses appears to foster alienation from society and lack of concern for or sensitivity to other human beings. When students have not succeeded in gaining status in classes, and when mid-term reports show that between 60 and 80 percent of the students have academic deficiencies, the result finds students losing their "can-ness."[93] They have no way to achieve status within the various groups, and no one seems to help them. Guilt feelings run rampant, and this kind of anxiety renders all striving useless.

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[93]Office of Research, Eastern Kentucky University, Fall Semester, 1971.

Paul Tillich has said that "Guilt robs existence of meaning because under its burden one cannot accept himself, and the springs of action are poisoned by a bad conscience."[94]

## Statistical Design

The experimental design included three parts: reading, background information correlations, and personality factor data.

The Nelson-Denny Reading Test Form "A" was administered to all subjects during the first week of Fall Semester, 1969. The pre-test measured vocabulary, comprehension, and rate. Form "B" was used as a post-test at the end of Fall Semester and the T-Test was employed to analyze the mean differences. The level of significance was established at .05.

A personal data sheet and information from the Eastern Kentucky University Office of Research yielded information which concerned background information (sex, race, rural-urban home area, and family income). Chi-Square was the statistical procedure used to analyze the data. American College Test scores and orientation grades

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[94]Philip H. Phenix, Realms of Meaning, New York: McGraw-Hill Book Company, 1964, p. 32.

were compared for successful and failing students from the Learning Laboratory and a t-test was applied to the data. The level of significance was set at .05.

Form "B" of the Cattell and Eber 16 P.F. Scale was administered to the 37 subjects during Spring Semester. When results were analyzed in terms of group or summary data, regression toward the mean resulted. Consequently, it was decided for the purposes of this study to analyze each factor using a t-test to determine whether there was a significant difference in personality factors between successful and failing students within the Learning Laboratory sample. A .05 level of confidence was established as being significant.

Data for the longitudinal study are not complete, but students from the 1969 group are about to graduate. Their grade point gains and major areas are reported in chapter 4.

# CHAPTER IV

# PRESENTATION AND ANALYSIS OF DATA

This study was conducted to determine whether or not an academic support program of study skills, reading, small group counseling and achievement motivation would salvage failing college students and enable them to earn degrees. Further, the study was an attempt to discover the degree of correlation of background and personality factors with successful academic performance. Findings of the study are reported in this chapter.

## Method and Analysis of Data of Reading Skills

Three types of data were collected for this study. The first type consisted of pre and post test scores derived from equivalent forms of the Nelson-Denny Reading Test. Data from vocabulary, comprehension, and reading rate sections of the test were analyzed to determine whether a significant increase in the three areas had occurred following intensive work in the academic support program.

The specific null hypotheses to be tested were:

$H^1$ There will be no significant difference between the success and failure groups in gains in reading vocabulary, rate, and comprehension as demonstrated on pre and post tests.

Tables 1 through 6 apply to Hypothesis $^1$ and provide scores and standard deviations for vocabulary, comprehension, and reading rates. Tables 1, 2, and 3, scores of successful students, reveal that a significant improvement occurred in vocabulary, comprehension, and rate, the level being beyond .05. In these three cases "t" had to exceed 2.056. However, there were also gains, significant at the .05 level for the failure group in the terms of reading rate, as shown in Table 4.

Table 1

Comparison of Pre and Post Test Nelson-Denny Scores of Vocabulary for Successful Students Using t-test Analysis

| N.D. Vocabulary | N | Mean | S D | t |
|---|---|---|---|---|
| Pre-test Form A | 27 | 30.30 | 9.273 | |
| Post-test Form B | 27 | 37.11 | 10.101 | -2.5342* |

*Significant at the .05 level

Table 2

Comparison of Pre and Post Test Nelson-Denny Scores of Reading Comprehension of Successful Students Using t-test Analysis

| N.D. Comprehension | N | Mean | S D | t |
|---|---|---|---|---|
| Pre-test Form A | 27 | 32.04 | 10.294 | |
| Post-test Form B | 27 | 43.59 | 6.967 | -4.7404* |

*Significant at the .05 level

Table 3

Comparison of Pre and Post Test Nelson-Denny Scores of Reading Rate of Successful Students Using t-test Analysis

| N.D. Rate | N | Mean | S D | t |
|---|---|---|---|---|
| Pre-test Form A | 27 | 253.33 | 77.404 | |
| Post-test Form B | 27 | 381.78 | 64.789 | -6.4884* |

*Significant at the .05 level

Table 4

Comparison of Pre and Post Test Nelson-Denny Scores of Reading Rate for Students Who Failed Using t-test Analysis

| N.D. Rate | N | Mean | S D | t |
|---|---|---|---|---|
| Pre-test Form A | 10 | 261.50 | 125.016 | |
| Post-test Form B | 10 | 411.10 | 80.832 | -3.0147* |

*Significant at the .05 level

Tables 5 and 6 demonstrate that students who failed did not make gaines significant at the .05 level in either vocabulary or comprehension. The point at which "t" would have been significant was 2.262.

Table 5

Comparison of Pre and Post Test Nelson-Denny Scores of Vocabulary for Students Who Failed Using t-test Analysis

| N.D. Vocabulary | N | Mean | S D | t |
|---|---|---|---|---|
| Pre-test Form A | 10 | 28.30 | 10.882 | |
| Post-test Form B | 10 | 33.60 | 9.810 | -1.0853* |

*Not significant at the 1.5 level

Table 6

Comparison of Pre and Post Test Nelson-Denny Scores of Reading Comprehension for Students Who Failed Using t-test Analysis

| N.D. Comprehension | N | Mean | S.D | t |
|---|---|---|---|---|
| Pre-test Form A | 10 | 32.60 | 13.713 | |
| Post-test Form B | 10 | 39.20 | 9.108 | -1.2028* |

*Not significant at the .05 level

Hypothesis[1] is rejected in considering gains in reading vocabulary and comprehension for successful students as opposed to failing students since results were significant at the .05 level. However, the null

hypothesis is accepted in analyzing differences in reading rate as both successful and failing students made improvements in scores sufficient to be significant at the .05 level.

## Analysis of Background Factors

The second type of data collected for this study was derived from questionnaires, personal interviews, and from the Office of Research, Eastern Kentucky University. Data on General Studies Orientation Grades (perceived as a measure of dependability), American College Test Scores, sex, family income, race, and size of hometown were analyzed. Tables 7 and 8 provide mean scores, standard deviations, and t-tests for significance at the .05 level [illegible] order for differences of the means of GSO orientation grades to reach the point of significance at the .05 level, "t" had to reach 2.030. The .05 level was not reached, and Hypothesis$^2$ is therefore accepted.

Table 7

Comparison of GSO Orientation Grades with Success and Failure of Experimental Group Using t-test Analysis

| Group | N | Mean | S D | t |
|---|---|---|---|---|
| Failure | 10 | 3.6000 | .6992 | |
| Success | 27 | 3.6667 | .6202 | -.2808* |

*Not significant at the .05 level

ACT scores, assumed to be predictive of college success, were compared. A t-test was applied to the data reported in Table 8, and no significant difference was found between successful and unsuccessful students.

Table 8

Comparison of American College Test Scores for Successful and Unsuccessful Students Using A T-test Analysis

| Group | N | Mean | S D | t |
|---|---|---|---|---|
| Failure | 10 | 13.4000 | 3.4059 | |
| Success | 27 | 14.1852 | 4.608 | -.4898* |

*Not significant at the .05 level

The second statistical method selected for analysis of the data was the chi square to test the hypotheses concerning sex, family income, race, and rural/urban hometown. As data in Table 9 indicate, there was no significant difference in the .05 level between male and female students in terms of success and failure. To be significant at .05 chi square had to read 3.841. Hypothesis[4] is accepted.

Table 9

Comparison of Sex with Success and Failure of Experimental Group Using Chi Square Analysis

| Sex | Failure | Success | Total |
|---|---|---|---|
| Male | | | |
| Frequency | 7 | 23 | 30 |
| Percent | 18.9% | 62.2% | 81.1% |
| Expected Frequency | 8.1 | 21.9 | |
| Female | | | |
| Frequency | 3 | 4 | 7 |
| Percent | 8.1% | 10.8% | 18.9% |
| Expected Frequency | 1.9 | 5.1 | |
| Chi Square = 1.097* | | Degrees of Freedom = 1 | |

*Not significant at the .05 level

Examination of Table 10 reveals no significant differences at the .05 level between successful and unsuccessful students when these data were correlated with family incomes. The point at which chi square would have been significant was 3.841. Null Hypotheis[5] is therefore accepted.

Table 10

Comparison of Income of Successful Students with Income of Unsuccessful Students Using Chi Square Analysis

| Income | Failure | Success | Total |
|---|---|---|---|
| Under $7,000 | | | |
| Frequency | 7 | 12 | 19 |
| Percent | 19.4% | 33.3% | 52.8% |
| Expected Frequency | 5.3 | 13.7 | |

Table 10 (continued)

| Income | Failure | Success | Total |
|---|---|---|---|
| Over $7,000 | | | |
| Frequency | 3 | 14 | 17** |
| Percent | 8.3% | 38.9% | 42.2% |
| Expected Frequency | 4.7 | 12.3 | |
| Chi Square = 1.648* | | Degrees of Freedom = 1 | |

*Not significant at the .05 level
**Data not available for one subject

Table 11 concerns a comparison of successful and unsuccessful students with regard to race, Anglo and Black. Chi square was applied to the data, and there was no significant difference at the .05 level of confidence. Null Hypothesis[6] was accepted.

Table 11

Comparison of Race of Successful Students With Unsuccessful Students Using Chi Square Analysis

| Race | Failure | Success | Total |
|---|---|---|---|
| White | | | |
| Frequency | 7 | 23 | 30 |
| Percent | 18.9% | 62.2% | 81.1% |
| Expected Frequency | 8.1% | 21.9 | |
| Black | | | |
| Frequency | 3 | 4 | 7 |
| Percent | 8.1% | 10.8% | 18.9% |
| Expected Frequency | 1.9 | 5.1 | |
| Chi Square = 1.097* | | Degrees of Freedom = 1 | |

*Not significant at .05 level

When area of hometown (rural/urban) of successful and unsuccessful students were compared using chi square analysis there was no significant difference at the .05 level. Null Hypothesis[7] was accepted.

Table 12

Comparison of Rural/Urban Area of Successful Students and Unsuccessful Students Using Chi Square Analysis

| Home Town Area | Failure | Success | Total |
|---|---|---|---|
| Rural | | | |
| Frequency | 2 | 11 | 13 |
| Percent | 5.6% | 30.6% | 36.1% |
| Expected Frequency | 3.6 | 9.4 | |
| Urban | | | |
| Frequency | 8 | 15 | 23** |
| Percent | 22.2% | 41.7% | 63.9% |
| Expected Frequency | 6.4 | 16.6 | |
| Chi Square = 1.558 | | Degrees of Freedom = 1 | |

*Not significant at .05 level
**No data for one subject

## Method and Analysis of Data of Personality Traits

The third type of data utilized in this study was derived from Cattell's 16 Personality Factor Scale. No consistent patterns of significance were disclosed through analyses of data. No general conclusions can be drawn relative to the influence of personality traits measured by this particular instrument and success or failure

of college students in this sample, with one exception, Factor M, practical, careful, as opposed to careless and unconventional. The value of "t", 3.0401, was significant at the .05 level. Hypothesis[17] was rejected. Hypotheses 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, and 23 were accepted.

Tables 13 through 28 presents data for each personality factor measured. The tables are self-explanatory. A t-test analysis was used and data were not significant at the .05 level in all cases except one, Factor M reported in Table 22. The point at which "t' reached significance was 2.030.

Table 13

Comparison of Successful and Failing Students on Cattell 16 P.F.-Scale, Factor A (Reserved as Opposed to Outgoing) Using t-test Analysis

| | N | Mean | S D | t |
|---|---|---|---|---|
| Failure | 10 | 4.9000 | 2.0790 | |
| Success | 27 | 5.4815 | 1.9089 | -.8039* |

*Not significant at the .05 level

Table 14

Comparison of Successful and Failing Students on Cattell 16 P.F.-Scale, Factor B (Concrete as Opposed to Abstract Thinking) Using t-test Analysis

| | N | Mean | S D | t |
|---|---|---|---|---|
| Failure | 10 | 3.8000 | 1.6193 | |
| Success | 27 | 4.3333 | 1.7759 | -.8294* |

*Not significant at the .05 level

Table 15

Comparison of Successful and Failing Students on Cattell 16 P.F.-Scale, Factor C (Easily Upset as Opposed to Calm, Mature) Using t-test Analysis

| | N | Mean | S D | t |
|---|---|---|---|---|
| Failure | 10 | 4.8000 | 2.3476 | |
| Success | 27 | 4.444 | 1.7172 | .5057* |

*Not significant at the .05 level

Table 16

Comparison of Successful and Failing Students on Cattell 16 P.F.-Scale, Factor E (Humble as Opposed to Aggressive, Assertive) Using t-test Analysis

| | N | Mean | S D | t |
|---|---|---|---|---|
| Failure | 10 | 5.8000 | 2.6998 | |
| Success | 27 | 5.1481 | 1.9749 | .8061* |

*Not significant at .05 level

Table 17

Comparison of Successful and Failing Students on Cattell 16 P.F.-Scale, Factor F (Sober-serious as Opposed to Happy-go-Lucky) Using t-test Analysis

| | N | Mean | S D | t |
|---|---|---|---|---|
| Failure | 10 | 5.7000 | 1.5670 | |
| Success | 27 | 5.4074 | 1.9267 | -1.0380* |

*Not significant at .05 level

Table 18

Comparison of Successful and Failing Students on Cattell 16 P.F.-Scale, Factor G (Expedient, Disregards Rules as Opposed to Conscientious) Using t-test Analysis

| | N | Mean | S D | t |
|---|---|---|---|---|
| Failure | 10 | 4.2000 | 1.8738 | |
| Success | 27 | 4.8519 | 1.7476 | -.9888* |

*Not significant at .05 level

Table 19

Comparison of Successful and Failing Students on Cattell 16 P.F.-Scale, Factor H (Shy, Timid as Opposed to Venturesome, Uninhibited) Using t-test Analysis

| | N | Mean | S D | t |
|---|---|---|---|---|
| Failure | 10 | 5.2000 | 2.2509 | |
| Success | 27 | 5.2222 | 1.9081 | -.0300* |

*Not significant at .05 level

Table 20

Comparison of Successful and Failing Students on Cattell 16 P.F. Scale, Factor I (Touch-minded, self-reliant as Opposed to Tender-minded Over-protected) Using t-test Analysis

| | N | Mean | S D | t |
|---|---|---|---|---|
| Failure | 10 | 5.5000 | 2.6352 | |
| Success | 27 | 5.4444 | 1.6946 | .0758* |

*Not significant at the .05 level

Table 21

Comparison of Successful and Failing Students on Cattell 16 P.F.-Scale, Factor L (Trusting as Opposed to Suspicious) Using t-test Analysis

| | N | Mean | S D | t |
|---|---|---|---|---|
| Failure | 10 | 5.6000 | 2.7968 | |
| Success | 27 | 6.7407 | 2.2790 | -.1.2653* |

*Not significant at the .05 level

Table 22 provides data for the only personality factor sampled which was found to be significant at the .05 level. The value of "t" was 3.0401 and in order to be significant at the .05 level, "t" had to reach 2.030. Students who succeeded were more practical and careful than those who failed.

Table 22

Comparison of Successful and Failing Students on Cattell 16 P.F.-Scale, Factor M (Practical, Careful as Opposed to Imaginative, Careless) Using t-test Analysis

| | N | Mean | S D | t |
|---|---|---|---|---|
| Failure | 10 | 7.4000 | 2.3190 | |
| Success | 27 | 5.2222 | 1.7831 | 3.0401* |

*Significant at the .05 level

Table 23

Comparison of Successful and Failing Students on Cattell 16 P.F.-Scale, Factor N (Forthright, Unpretentious as Opposed to Apprehensive, Worrying) Using t-test Analysis

| | N | Mean | S D | t |
|---|---|---|---|---|
| Failure | 10 | 5.7000 | 2.0575 | |
| Success | 27 | 5.1481 | 2.1250 | .7072* |

*Not significant at .05 level

Table 24

Comparison of Successful and Failing Students on Cattell 16 P.F.-Scale, Factor O (Self-assured, Confident as Opposed to Apprehensive, Worrying) Using t-test Analysis

| | N | Mean | S D | t |
|---|---|---|---|---|
| Failure | 10 | 5.1000 | 2.6031 | |
| Success | 27 | 5.9630 | 1.9510 | -1.0908* |

*Not significant at the .05 level

Table 25

Comparison of Successful and Failing Students on Cattell 16 P.F.-Scale, Factor $Q^1$ (Conservative as Opposed to Liberal, Experimenting) Using t-test Analysis

| | N | Mean | S D | t |
|---|---|---|---|---|
| Failure | 10 | 5.000 | 2.211 | |
| Success | 27 | 4.8148 | 2.1845 | .2283* |

*Not significant at the .05 level

Table 26

Comparison of Successful and Failing Students on Cattell 16 P.F.-Scale, Factor $Q^2$ (Group-Dependent as Opposed to Self-Sufficient) Using t-test Analysis

| | N | Mean | S D | t |
|---|---|---|---|---|
| Failure | 10 | 4.4000 | 2.1705 | |
| Success | 27 | 5.3704 | 2.1688 | -1.2084* |

*Not significant at the .05 level

Table 27

Comparison of Successful and Failing Students on Cattell 16 P.F.-Scale, Factor $Q^3$ (Undisciplined as Opposed to Controlled) Using t-test Analysis

| | N | Mean | S D | t |
|---|---|---|---|---|
| Failure | 10 | 5.1000 | 1.2867 | |
| Success | 27 | 5.6296 | 2.0220 | -.7689* |

*Not significant at the .05 level

Table 28

Comparison of Successful and Failing Students on Cattell 16 P.F.-Scale, Factor $Q^4$ (Relaxed as Opposed to Tense, Frustrated) Using t-test Analysis

| | N | Mean | S D | t |
|---|---|---|---|---|
| Failure | 10 | 5.5000 | 2.1213 | |
| Success | 27 | 6.0741 | 1.5172 | -.9158* |

*Not significant at the .05 level

A comparison of the entering grade point average with the grade point average at the end of two semesters for the 37 subjects in the C.U.C. Learning Laboratory is shown in Table 29. The mean differences in the scores exceeded the point of significance at the .05 level of confidence.

Table 29

Comparison of Pre and Post Cumulative Grade Point Averages by t-test Analysis for Entire Group

| Group | N | Mean | S D | t |
|---|---|---|---|---|
| Pre GPA | 37 | 1.23 | .120 | |
| Post GPA | 37 | 1.65 | .432 | -5.5643* |

*Significant at the .05 level

## Discussion of Findings

Hypothesis [1] which assumed gains in reading vocabulary and comprehension for successful students as opposed to failing students is rejected since results were significant at the .05 level. However, after analyzing differences in reading rate the null hypothesis is accepted as both successful and failing students made improvements in scores sufficient to be significant at the .05 level.

Null Hypothesis [2] was accepted as there was no appreciable difference in GSO orientation grades of successful students as opposed to those who failed.

Hypothesis [3] concerned a comparison of ACT scores for successful and failing students. The mean difference in the scores was not significant at the .05 level, and the null hypothesis was accepted.

Hypothesis [4] compared male and female students in terms of success and failure. Chi square was used to analyze the data, with the point of significance set at 3.841 (.05 level). The difference was not significant, and the null hypothesis was accepted.

Hypothesis [5] examined the family incomes of failing and successful students. The level of significance did not reach .05, and the hypothesis was therefore rejected.

. When Chi Square was applied to the data concerning race (Anglo and Black), there was no significant difference at the .05 level of confidence. Null Hypothesis $^{6}$ was accepted.

When area of hometown, urban/rural, were compared for successful and failing students, chi square was applied to the data. Chi Square was not significant at the .05 level, and null Hypothesis $^{7}$ was accepted.

Students from the group of university failures who gained success in the academic support program scored significantly higher on Factor "M" of the Cattell 16 P.F. Scale which indicates that they are careful as opposed to careless of practical matters, "anxious to do the right things, and subject to the dictation of what is obviously possible."[95]

Hypotheses 8 through 23 compared personality factors from the Cattell 16 P.F. Scale. The null hypotheses were accepted with the exception of H $^{17}$, Factor M--practical, careful as opposed to careless. Hypothesis $^{17}$ was rejected because the value of "t", 3.0401 was significant

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[95]Raymond B. Cattell and Hubert W. Eber, Manual for Forms A and B, The 16 P.F. Young Adults and Adults," (Champaign, Ill.: Institute for Personality and Ability Testing, 1962), p. 17.

at the .05 level.

There was a significant increase in grade point standing from the time of entrance into the C.U.C. Learning Laboratory to the end of Semester II.

# CHAPTER V

## SUMMARY AND CONCLUSIONS

### SUMMARY OF THE STUDY

The purpose of this study was to determine the effects of an academic support program on students who had been terminated from Eastern Kentucky University because of academic failure. The primary question posed by the longitudinal study concerned the percentage of academic failures who would be rehabilitated and enabled to earn four-year degrees as a result of the Central University College Learning Laboratory experimental program. The C.U.C. Learning Laboratory program was designed to include a reading-study skills course, and small group sections for tutoring and counseling, with special emphasis on achievement motivation.

A second question investigated in the study dealt with the correlation of reading vocabulary, comprehension rate and grade point achievement. After a seven-week reading study skills course, did students who succeeded in the experiments have significantly better reading scores than those who failed?

A third concern of the study was to examine background and personality factors of students within the Learning Laboratory experiment to determine whether there were traits common to "successful" student members of the rehabilitated group of 37 subjects.

In reviewing the literature concerning academic support programs, one finds few studies following students through to graduation. Related studies reported findings from compensatory programs, but those particular programs were open to ethnic minorities and economically disadvantaged, not to a sample representative of a total university population.

Background factors such as sex, race, income, and urban/rural hometown were examined, and a search through the literature found that the importance attached to these factors was controversial. The same contradictory findings were reported when the value of reading-study skills courses was correlated with grade point achievement. The literature concerning group counseling and academic performance was examined, but reports of results of counseling appeared to diminish after one semester.

Personality factors and academic achievement were reviewed in order to give direction in screening subjects for subsequent C.U.C. Learning Laboratory samples.

Further research is indicated as results vary from one study to another. Most of the investigators agreed, however, that non-intellectual variables such as persistence and deferred gratification could be used to predict academic success.

## Summary of the Findings

After considering the data presented in this study, it now appears that students whose college careers had been terminated because of academic failure can be rehabilitated through an academic support program and enabled to earn four-year degrees within a four-and-a-half to five-year time span. Because students on academic probation are not allowed to enroll for more than twelve credit hours, in order to graduate on time they would have to attend summer school. Of the 37 subjects in the longitudinal study, one graduated on time by attending two summer sessions. However, three others are graduating at the end of four years and the current summer session. (See Appendix A). Fourteen students all together will have graduated by Spring Semester, 1973, and another is being sponsored by the bank for which he works, advancing his university education in evening classes. These students represent a wide range of college majors as shown in

Appendix A. They cut across all socioeconomic lines and represent urban as well as rural populations, and black as well as white students. If fourteen of the sample of 37 students do indeed graduate, 37 percent of the original academic failures will have survived to earn four year degrees. If one considers the original 57, many of whom did not complete the first semester in the experiment, the ratio is 24.5% who will earn four-year degrees. That figure is approximately the same as the national figure for entering freshmen who earn degrees within the four to five-year allotted time. When one remembers that the 24.5% who earned degrees as reported in this longitudinal study were formerly dismissed for academic failure, the results are perhaps impressive and may have broad implications.

The specific hypotheses tested in the study concerned reading improvement, background factors which were assumed to influence academic achievement, and personality traits. Successful students in the study showed a significant improvement in vocabulary and comprehension, pre and post test Nelson-Denny scores. The "t" test was significant at the .05 level of confidence. There was no significant difference between successful and failing students in the sample when reading rate gains were compared. The data seem to suggest that reading improvement courses

do influence grade point achievement. (See Appendix B).

Other factors sampled, such as Orientation Grades and ACT Scores, showed no significant difference between the successful and failing students in the sample. Background factors including sex, family income, race, and urban/rural hometown were correlated with success and failure of students, and after analyzing the data by using Chi-Square, the variables were judged "not significant" at the .05 level.

One of the most interesting finding of the study concerned the data from Cattell's 16 Personality Factor Scale. Of the 16 personality factors sampled, only one, Factor "M" (careful as opposed to careless) was significant. An interpretation of this factor indicates that the students who succeeded in the Learning Laboratory program were more careful in practical matters, anxious to do the right things, and apparently more receptive to suggestions than were the students who failed.

When data concerning pre and post treatment cumulative grade point averages for the first two semesters in the Learning Laboratory were compared, the results exceeded the .05 level of confidence.

## Conclusions

Based on the collective data, the following conclusions seem appropriate:

1. The data revealed that reading and study skills courses have value and contribute to academic achievement. Gains in vocabulary and reading comprehension had a significant effect on grade point achievement.
2. Small group counseling combined with practical application of study skills learned in the aforementioned course appears to bring change in a positive direction and results in academic achievement. Therefore, the Learning Laboratory design which provided for group interaction within tutorial situations may be considered a valid motivational technique.
3. The Learning Laboratory subjects were fairly representative of the university population in terms of sex, race, family income, and rural/urban hometowns. Male and female students who can benefit from academic support programs appear to come from all socioeconomic and racial groups, and represent both rural and urban communities.

4. Data derived from questionnaires and personal interviews indicated that overindulgent parents, parental indifference, and economic deprivation may have a negative effect on academic achievement of students.
5. A.C.T. Scores of the successful students in the experiment were not significantly better than scores of the students who failed.
6. With regard to personality factors and academic success, the evidence was inconclusive with the exception of one factor sampled, Factor "M", of the 16 P.F. Scale. Students who succeeded were more careful about practical matters and more receptive to suggestions for change.
7. The data suggest that if one-fourth of the students whose college careers have been terminated because of academic failure are rehabilitated through academic support programs and enabled to earn degrees, such programs have validity.
8. Staff observation and personal interviews revealed that there was an obvious improvement in self-concept following two semesters in the C.U.C. Learning Laboratory. Research is needed to assess this change in mien of many of the students.

Therefore, provisions for pre and post measurement of self concepts is strongly recommended.

9. Because of the small size of the sample reported in this study, the findings may not be applicable to total populations. The study should be replicated, using a larger sample.

## Implications

National attention has been directed toward upgrading education at all levels for economically disadvantaged and minority students. Yet, a surprising finding of this study was that there appears to be a significant minority of relatively advantaged students who need academic support. The findings agree with statements by Cross[96], "America's newest college students are not necessarily black or brown or red; most of them are the white sons and daughters of blue-collar workers. It is the lower-half, academically, who are now seeking admission to open door institutions." There are a number of programs, especially in community colleges, for these new students. There are remedial

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[96]Cross, "New Students of the "70's," p. 1.

courses to correct academic "deficiencies," according to Cross[97], counseling programs to correct motivational "deficiencies", and financial aids to correct "financial deficiencies," but the programs are not sufficient, and they do not report significant results, for the most part.

Based on the findings of this study, it appears possible through programs which combine reading-skill development courses, and motivational counseling to have a significant impact on students with academic deficiencies. However, Cross recognized that since there are few former remedial students among today's college administrators and faculty members, "the problem of developing sensitivities to new students of the seventies is monumental."[98]

The Learning Laboratory staff was sensitive to the fact that one particular need, the need for status, was present in virtually all of the students with whom they worked. The "successful" students were responsive to staff suggestions and may have improved academically to please staff instructors. Sidney M. Jourard commented:

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[97] Ibid., p. 4.

[98] Ibid., p. 6.

> When some significant other person, such as a teacher, coach, therapist, or minister, believes he sees potentials for functioning in an individual which the latter cannot presently see in himself, he can sometimes convince or inspire the pupil or patient to efforts that bring success. Self confidence seems to derive both from a history of graduated successes in coping with increasingly difficult and complex problems and from the experience of being seen by other people as competent. [99]

The C.U.C. Learning Laboratory experiment suggests that it is possible to overcome academic failure, provided admissions committees and students are willing to recognize that at least two and possibly four semesters may be required to raise the overall grade point average to a satisfactory level. Furthermore, a willingness to combat both the intellectual and nonintellectual factors involved in the failure syndrome is essential.

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[99]Sidney M. Jourard, Disclosing Man to Himself, (Princeton, New Jersey: D. Van Nostrand Company, Inc., 1968, p. 217

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# APPENDIX

APPENDIX A

## Follow-up Study of Original CUC Learning Lab. Students

| Student and Major | Spg.'69' Ent.Cum. GPA | Sem. Fall '69' | Cum. GPA | Sem. Spg. '70' | Cum. G.PA | Sem. Fall '70' | Cum. GPA | Sem. Spg. '71' | Cum. GPA | Sem. Sum. GP A '71' | Cum. GPA | Sem. Fall '71' | Cum. GPA | Sem. Spg. '72' | Cum. GPA | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| W.C. El.Ed. | 1.273 | 1.83 | 1.422 | 2.545 | 1.643 | 2.6 | 1.845 | 2.40 | 1.942 | | | 2.8 | 2.069 | 3.27 | 2.224 | |
| J.C. Geog. | 1.179 | 1.727 | 1.333 | 2.5 | 1.803 | 2.47 | 2.02 | 3.375 | 2.255 | 2.5 | 2.29 | 2.8 | 2.345 | 2.80 | 2.397 | |
| R.D. LawEnf. | 1.387 | 1.636 | 1.452 | 3.00 | 1.750 | 1.76 | 1.75 | 2.00 | 1.913 | | | 2.75 | 2.022 | 2.40 | 2.075 | |
| T.G. P.E. | 1.395 | 2.0 | 1.545 | 2.462 | 1.754 | 2.38 | 1.87 | 3.00 | 2.081 | | | 2.76 | 2.192 | 2.41 | 2.298 | |
| T.F. Rec.4 | 1.393 | 2.833 | 1.825 | 3.214 | 2.185 | 2.70 | 2.31 | 2.833 | 2.316 | | | 2.07 | 2.365 | 1.79 | 2.276 | |
| J.K. Soc. | 1.294 | 1.737 | 1.391 | 3.417 | 1.835 | 2.06 | 1.9 | 3.250 | 2.207 | 3.0 | 2.22 | 3.36 | 2.403 | | | GRAD |
| T.H. Hist. | 1.200 | 1.100 | 1.175 | 3.00 | 1.638 | 2.0 | 1.656 | 1.800 | 1.772 | 3.0 | 1.85 | 2.40 | 1.936 | 2.00 | 1.949 | |
| B.K. LawEnf. | 1.312 | 2.00 | 1.513 | 2.00 | 1.642 | 2.06 | 1.74 | 2.5 | 1.855 | | | 2.20 | 1.908 | | 1.975 | GRAD |
| E.R. Ind.T. | 1.294 | 1.667 | 1.372 | 2.083 | 1.527 | 1.46 | 1.67 | 2.0 | 1.831 | 3.0 | 1.91 | 1.43 | 1.845 | | | |
| RR. El.Ed. | 1.379 | 2.30 | 1.615 | 3.75 | 2.118 | 2.118 | 2.40 | 3.2 | 2.556 | | | 3.18 | 2.712 | 4.00 | 2.778 | GRAD |
| J.S. P.E. | 1.226 | 1.727 | 1.341 | 2.538 | 1.630 | 1.86 | 1.68 | 2.333 | 1.798 | | | 1.88 | 1.812 | 1.61 | 1.782 | |
| C.S. Soc. | 1.26 | 1.364 | 1.333 | 2.5 | 1.597 | 2.00 | 1.73 | 1.929 | 1.819 | | | 2.80 | 1.954 | 1.60 | 1.911 | |
| H.S. Pre.En. | 1.219 | 1.818 | 1.372 | 1.923 | 1.47 | 2.5 | 1.6 | 2.538 | 1.882 | 3.3 | 2.03 (2.4 at U.K.) | | | | | |
| D.T. Hist. | 1.290 | 2.000 | 1.488 | 2.429 | 1.719 | 2.35 | 1.84 | 2.167 | 1.910 | 2.0 | 1.97 | 2.40 | 2.036 | 2.40 | 2.107 | |
| G.W. Law.Enf. | 1.258 | 2.273 | 1.524 | 1.93 | 1.774 | 2.06 | 1.93 | 2.6 | 2.043 | | 2.01 | 2/25 | 2.037 | 2.83 | 2.152 | GRAD |
| F.F. Acct. | 1.387 | 3.000 | 1.81 | 2.07 | 1.875 | 1.2 | 1.732 | | * | | | | | | | |
| R.S. Law.Enf. | 1.032 | 1.455 | 1.143 | 2.54 | 1.41 | .929 | 1.32 | | * | | | | | | | |
| J.L. Ind.T. | 1.069 | 1.273 | 1.125 | 2.21 | 1.40 | 2.76 | 1.67 | | ** | | | | | | | |

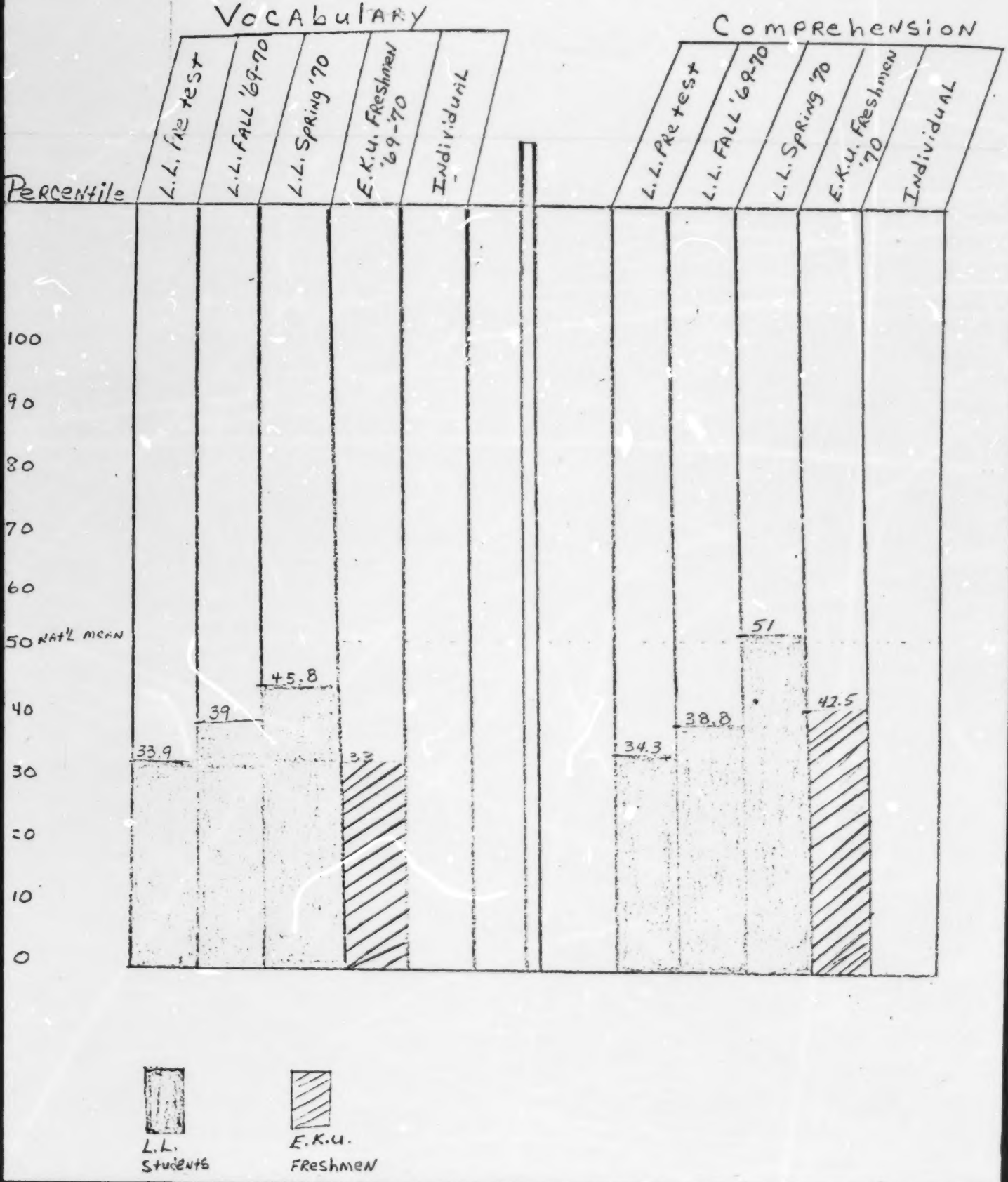
*Did not return to college

** Terminated because he failed to meet Learning Lab. commitments.

# Nelson - Denny Test

## Learning Lab Profile 1970

APPENDIX B



## APPENDIX C

Mrs. Ann Algier
Central University College
Learning Laboratory

Applicants selected for the Central University College Learning Laboratory program must be willing to accept the following conditions of enrollment:

1. You will be scheduled in to the Central University College Learning Laboratory between the hours of 8 A.M. and 4 P.M. and required to spend as much time as is deemed necessary by the staff. Activities will depend on results of diagnostic testing.

2. Your advisor will be a C.U.C. Learning Laboratory staff member while you are under our jurisdiction.

3. You will not be allowed to carry a normal class load, and you will pay full university fees regardless of the number of credit hours attempted.

4. Your personal and social record will be periodically reviewed by the student affairs office, housing office, and business office and must be cleared by these offices for continuation in the program.

5. Your return for future semesters will depend on an evaluation at the end of each semester and will be based, primarily, on your making significant gains in academic achievement.

6. If you fail to meet C.U.C. Learning Laboratory requirements for attendance, your relationship to it may be terminated at any time during the semester and no tuition refund will be made.

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I understand and am willing to abide by the conditions summarized above. I have discussed all of the requirements and restrictions with my parents.

_____
Student's Signature

Vita

Name: Mrs. Ann S. Algier, Supervisor, Central University College Learning Laboratory, Assistant Professor of Education

Date of Birth: March 27, 1926

Work Experience:
- Coordinator of the College Reading Program, Eastern Kentucky University, three years;
- Instructor of English, EKU, one year;
- Seven years teaching experience, grades 7, 8, 10, 11, 12 (History and English)
- Chairman, English Department, Highland High School, Albuquerque, New Mexico;
- Guidance Counselor, Highland High School, Albuquerque, New Mexico;
- Television program, ETV, Channel 5, KNME, Albuquerque, New Mexico, (Directed toward parents-concerned with problems of children and youth), twice a week - one year;
- Teacher of English and Reading, Upward Bound Program, Summer, 1966;
- Instructor and Assistant to Dr. Arville Wheeler in N.D.E.A. Institute in Reading for Elementary Principals, Summer, 1968;
- One of program speakers for Annual University Workshops 1966, 1967, 1968, 1969;
- Consultant for Reading In-Service Programs and Workshops in Eastern Kentucky. Edited curriculum guide for Louisa Elementary School, Louisa, Kentucky, after assistant in curriculum revision which resulted in the current innovative program, non-graded;
- Commissioned to write two articles for Southern Appalachian Laboratories, Atlanta, Ga., "Language Competence and Performance" and "Language I.Q. and Teacher Expectations";
- Prior to entering the field of education, Mrs. Algier was a reporter for Wyoming Newspapers, Inc., at Laramie and Rock Springs, Wyoming;
- Published articles include:
  "Basket Weaver II Discovery," The Denver Post, 1961; "Television for Educational Purposes," New Mexico Magazine, 1963; "Let's Go South," Budget Travel, 1968; "A New Approach to Academic Rehabilitation," Educational Record, Winter, 1972.

| | |
|---|---|
| Educational Background: | Bachelor of Arts, University of Wyoming, History and Journalism.<br>Master of Arts, University of New Mexico, Guidance and English.<br>M.A. + 42 hours (Eastern Kentucky University, in Psychology, Guidance, English, and Education courses) |
| Honoraries: | Phi Kappa Phi<br>Pi Delta Epsilon, National Collegiate Journalism Honorary<br>Pi Lambda Theta<br>Who's Who Among American College and University Students<br>Mortar Board<br>Recipient of Exchange Fellowship, American Republics Section, Division of International Study for Study in Costa Rica, 1949 |
| Courses taught: | EDF 620, Group Processes in Guidance<br>EDU 574, Teaching of Reading in the Secondary Schools<br>EDU 576, Techniques and Materials of Reading<br>EDU 675, Diagnosis of Reading Problems<br>EDU 570, Developmental Reading<br>ENG 211, World Literature<br>GSE 101, Freshman Composition<br>GSE 102, Freshman Composition |
| Certificates held to 1975: | Guidance and Counseling (Secondary)<br>Kentucky<br>New Mexico<br><br>Secondary Teaching Certificates - Fields<br>Journalism<br>History<br>English<br>Psychology |